SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin D1 (CD1.1): sc-56302

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The proliferation of eukaryotic cells is controlled at specific points in the cell cycle, particularly at the G_1 to S and the G_2 to M transitions. It is well established that the Cdc2 p34-cyclin B protein kinase plays a critical role in the G_2 to M transition, while cyclin A associates with Cdk2 p33 and functions in S phase. Considerable effort directed towards the identification of G_1 cyclins has led to the isolation of cyclin D, cyclin C and cyclin E. Of these, cyclin D corresponds to a putative human oncogene, designated PRAD1, which maps at the site of the Bcl-1 rearrangement in certain lymphomas and leukemias. Two additional human type D cyclins, as well as their mouse homologs, have been identified. Evidence has established that members of the cyclin D family function to regulate phosphorylation of the retinoblastoma gene product, thereby activating E2F transcription factors.

REFERENCES

1. Draetta, G. 1990. Cell cycle control in eukaryotes: molecular mechanisms of Cdc2 activation. Trends Biol. Sci. 15: 378-383.
2. Xiong, Y., et al. 1991. Human D-type cyclin. Cell 65: 691-699.
3. Motokura, T., et al. 1992. Cloning and characterization of human cyclin D3, a cDNA closely related in sequence to the PRAD1/cyclin D1 proto-oncogene. J. Biol. Chem. 267: 20412-20415.

CHROMOSOMAL LOCATION

Genetic locus: CCND1 (human) mapping to 11q13.3, Ccnd1 (mouse) mapping to 7 F5.

SOURCE

cyclin D1 (CD1.1) is a mouse monoclonal antibody raised against full length cyclin D1 of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

cyclin D1 (CD1.1) is recommended for detection of cyclin D1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for cyclin D1 siRNA (h): sc-29286, cyclin D1 siRNA (m): sc-29287, cyclin D1 shRNA Plasmid (h): sc-29286-SH, cyclin D1 shRNA Plasmid (m): sc-29287-SH, cyclin D1 shRNA (h) Lentiviral Particles: sc-29286-V and cyclin D1 shRNA (m) Lentiviral Particles: sc-29287-V.

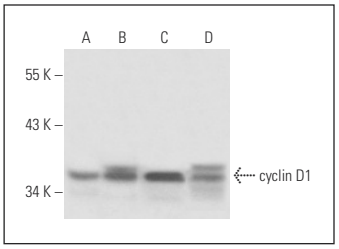
Molecular Weight of cyclin D1: 37 kDa.

Positive Controls: MCF7 nuclear extract: sc-2149, RAW 264.7 whole cell lysate: sc-2211 or KNRK nuclear extract: sc-2141.

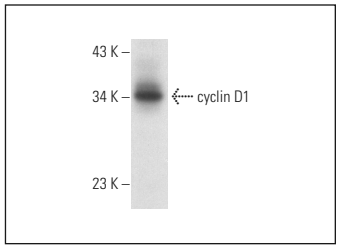
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



cyclin D1 (CD1.1): sc-56302. Western blot analysis of cyclin D1 expression in C32 (**A**), KNRK (**B**) and MCF7 (**C**) nuclear extracts and C6 whole cell lysate (**D**).



cyclin D1 (CD1.1): sc-56302. Western blot analysis of cyclin D1 expression in RAW 264.7 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Deng, W., et al. 2008. Role of ornithine decarboxylase in breast cancer. Acta Biochim. Biophys. Sin. 40: 235-243.
2. Bielesz, B., et al. 2010. Epithelial Notch signaling regulates interstitial fibrosis development in the kidneys of mice and humans. J. Clin. Invest. 120: 4040-4054.
3. Yin, S., et al. 2011. Cisplatin and TRAIL enhance breast cancer stem cell death. Int. J. Oncol. 39: 891-898.
4. Esposito, E., et al. 2012. The NAMPT inhibitor FK866 reverts the damage in spinal cord injury. J. Neuroinflammation 9: 66.
5. Yang, J., et al. 2013. Trop2 regulates the proliferation and differentiation of murine compact-bone derived MSCs. Int. J. Oncol. 43: 859-867.
6. Li, X., et al. 2014. KCTD1 suppresses canonical Wnt signaling pathway by enhancing β-catenin degradation. PLoS ONE 9: e94343.
7. Gao, X.Y., et al. 2015. siRNA targeting of Trop2 suppresses the proliferation and invasion of lung adenocarcinoma H460 cells. Exp. Ther. Med. 10: 429-434.
8. Tang, C., et al. 2017. Downregulation of miR-130a promotes cell growth and epithelial to mesenchymal transition by activating HMGB2 in glioma. Int. J. Biochem. Cell Biol. 93: 25-31.
9. Que, W., et al. 2018. Antiproliferation activities of NK4 on multiple myeloma. Exp. Ther. Med. 16: 3668-3673.
10. Zhang, C., et al. 2019. Silencing of synuclein-γ inhibits human cervical cancer through the AKT signaling pathway. Cell. Mol. Biol. Lett. 24: 49.
11. Lee, Y.T., et al. 2019. Compound C inhibits B16-F1 tumor growth in a syngeneic mouse model via the blockage of cell cycle progression and angiogenesis. Cancers 11: 823.

RESEARCH USE

For research use only, not for use in diagnostic procedures.